

MI-42092

MORSE CODE TRANSLATOR AND TELETYPE CONVERTER



DESCRIPTION

The problem of accurate, automatic decoding of International Morse Code has been solved by the RCA MI-42092 series of equipments. These equipments are capable of receiving either machine sent or manually keyed signals and will operate in the presence of noise, interfering signals and dot-dash distortion.

FEATURES

- This system records the decoded message on a standard teleprinter or displays it on a unique high visibility moving word display.

- The equipment is a completely transistorized digital processor which provides a high tolerance to average code speed variation, distortions in dot/dash and spacing duration and high reliability.

- Line Feed and Carriage Return signals are electronically generated to produce standard teletype copy.

- Correct word spacing is automatically produced in the output device whenever a natural Morse Code pause of seven nominal dot durations take place.

- The unit can tolerate a code speed variation of up to three to one without manipulation of the code speed selector.

- All logic circuits are rugged, encapsulated, plug-in modules which meet normal environmental conditions and enable simple maintenance procedures.

- The standard model MI-42092 has a capability of recognition of thirty-six (36) alphanumeric characters. Models providing punctuation can be furnished in the same size enclosure.

- The code speed ranges shown in the detail specifications are suggested for general application. Other ranges can be provided on request.



DEFENSE ELECTRONIC PRODUCTS • COMMUNICATIONS SYSTEMS DIVISION
TACTICAL COMMUNICATIONS DEPARTMENT

SPECIFICATIONS

SIZE: 19 inches wide x 20 3/16 inch depth x 7 inch panel height
Standard rack mounting slots.

WEIGHT: 50 pounds

POWER REQUIREMENT: 105-125 volts, 50-400 cps a-c Watts 50

ENVIRONMENT: 0-50 Degrees C ambient temperature

INPUT SOURCE: a) Magnetic Tape Recorder Playback
b) Radio Receiver Audio Output
c) Manually Operated Telegraph Key

INPUT VOLTAGE RANGE: 0.5 to 10 v RMS

INPUT FREQUENCY: 1000 cps $\pm$ 75 cps

INPUT IMPEDANCE: 600 ohms

VARIABLE CODE SPEED ACCOMMODATION:
Manual Switch selects following standard code speeds
12 WPM (7.2 - 16.8 WPM range)
18 WPM (10.8 - 25.1 WPM range)
24 WPM (14.4 - 33.6 WPM range)

OUTPUT

- 1) 100 WPM Teleprinters; Kleinschmidt AN/FGC-20
or Teletype Corp. Model 28 (For further info. see)--MI42092A
- 2) Moving Message Visual Display (For further info. see)--MI42092B
- 3) Sub-Miniature Strip Printer (For further info. see)--MI42092C
- 4) Single Alpha-Numeric Visual Monitor (For further info. see)--MI42092D

NOISE IMMUNITY

For a signal to noise ratio of zero (0) db. and one (1) KC receiver selectivity bandwidth, the character error rate is less than 1/5000 at 15 words per minute. Matched low-pass base-band filters are incorporated to improve the signal to noise ratio at all code speeds.

ADJACENT CHANNEL INTERFERENCE REJECTION

Provided by input band-pass filters

SIGNAL MONITORING

Built-in loudspeaker and a jack into which head-phones may be plugged are provided to give an audible Morse Code signal. This audible signal is useful as an indication of proper operation of the input circuitry.

TUNING

A panel meter is provided to enable the operator to center the input tone within the band-pass filter acceptance range. This is accomplished by either adjustment of the tape recorder speed or receiver BFO for maximum meter indication.

INPUT SIGNAL LEVEL

A green band on the meter is provided to indicate the optimum input signal amplitude.

CODE STANDARDS

The equipment is designed to utilize the nominal dot/dash and spacing durations of International Morse Code.

Teleprinter output is the standard 100 WPM equal baud start-stop teletype code.

For Further Information Please Contact:
Manager, Market Department
Communications Systems Division
Defense Electronic Products
Radio Corporation of America, Bldg. 1-3
Camden, New Jersey 08102
Telephone: (609) 963-8000, Ext. PC-3943

Specifications furnished by RCA are believed to be accurate and reliable. However all Specification data is subject to change without notice.



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MORSE CODE TRANSLATOR AND TELETYPE CONVERTER MI-42092

Have you always believed that the automatic Reception and Translation of handsent Morse Code into hard copy was unattainable? If you have, the Morse Code to Teletype Translator recently developed by RCA, and illustrated on the reverse side should be of interest to you.

For the complete story on performance, price and delivery, contact:

Manager, Marketing Dept. Building 1-3
Area Code (609) 963-8000
Communications Systems Division
Defense Electronic Products
Radio Corporation of America
Camden 2, New Jersey



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DEFENSE ELECTRONIC PRODUCTS

GARDEN 2, NEW JERSEY



RCA Morse Code Translator and Teletype Converter Model MI 42092

In response to your request for information on RCA's Morse Code Translator and Teletype Converter, we are forwarding herewith our catalog sheets which describe the device in detail, highlighting its features and electrical specifications.

In summary, the sheets describe equipment which copies hand-sent Morse at three (3) speed ranges, centered at 12, 18 and 24 words per minute and has a character recognition capability of 36 letters and numerals. It contains two input filters centered at 400 and 800 CPS, respectively, and a tuning and level set meter which facilitates the initial set up with a receiver or tape recorder. The device contains 25 MB-type plug-in "Mini-Mod" circuit cards.

This model, although not bearing a military nomenclature, has been designed and tested for operation at 0° to 50° C ambient temperatures, and ruggedly built so as to operate in a typical military environment. In support of this, it should be noted that this equipment has been delivered to the U. S. Army for operational use.

In addition to the equipment capability described above, other features can be incorporated into the equipment by the simple addition of circuit boards, involving a nominal increase in price. Typical of such increased capabilities are:

- Addition of "stunt" features AR, SK and BT; (giving two carriage returns and one line feed each).
- All punctuation marks.
- An improved tuning meter to provide zero or null indication when the BFO on the receiver is properly set (980 cps). Thus any BFO drift in the radio receiver is instantly visible to supervisory personnel, who can make a quick, accurate BFO adjustment. One man may monitor a large number of Code Converters by visually scanning the tuning meter for a null reading even during transmission.
- Addition of five Russian characters (thus completing that alphabet).

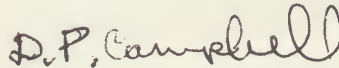
- Six code speed ranges centered at 12, 18, 24, 36, 48 and 72 WPM. (This gives an effective overall range of 7 to 80 WPM with the existing buffer storage capacity based upon average mixed text.)
- Six separately selectable low pass filter cut-off frequencies of approximately 7.5, 11, 15, 22, 29 and 44 cps, respectively. Any low pass filter may be selected together with any code speed range selection. "Normal" filter-code speed combinations are indicated by clear alphabetical designations A, B, C, D, E and F.
- Character Spacing and Word Spacing switches are available to enable accurate copy of "run together" characters and words with exceptionally wide margin for poor sending.
- Addition of a word-per-minute scale on meter.

The existing mechanical design would necessarily limit the number of additional features described above, which could be incorporated into one device. However, depending upon the operational need, certain combinations of these features could be incorporated into the equipment at nominal cost.

Also enclosed is a data sheet on our Moving Message Visual Display, MI 42092B, which describes a unique method of readout. Prices for this device are not yet available. They can, however, be made available shortly after receipt of a request.

Please direct any questions you may have to the undersigned at (609) Woodlawn 3-8000, Extension PC-3260. Thank you for your interest and assistance.

Very truly yours,



D. P. Campbell
Contract Representative
Communications Systems Division